

Buying Clinic

Whether you're looking for new kit or want to improve your existing hardware, you'll always find the very best advice at the Buying Clinic – where you never spend more than you have to

CONTACT

BUYING CLINIC

If you need buying advice on hardware and software, write to:

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UPGRADING CASE TEMPERATURE

HOW DO I UPGRADE AND KEEP MY SYSTEM COOL?



Q I have built a powerful PC. It's based on an Intel D865PERL motherboard with a Pentium 4 3GHz processor, a Connect3D ATI Radon 9600 graphics card, two DVD drives and two hard drives.

All this kit is producing plenty of heat. I replaced the processor cooler with a new Akasa 901XT all-copper heat sink. This has a variable speed fan normally set to run at 5,500rpm. I added two 80mm fans at the front for pushing air in, and a pair at the back to pull air through the system. This is managing to keep my case temperature down, but the processor is around 45-50°C when I am playing games.

I am thinking of upgrading to a more powerful processor and graphics card, but I don't know which would be better to keep my system cool. I'm considering more fans, water

cooling, a Peltier cooler and vapour phase change cooling. Which of these would be the best choice, and which is easiest to install?

Christopher Burden

A Many of Intel's more recent Pentium 4 processors are known to generate a lot of heat, particularly when running intensive tasks such as 3D games. But your system is running hotter than we would expect. We try to keep our Pentium 4 systems below 45°C, and would use a more powerful processor cooler to lower the temperature slightly.

If you're planning to upgrade, there are several things you can do to keep your computer cooler. For one, we always recommend using 120mm case fans for system cooling. These push more air than 80mm fans, and also tend to make less noise.

The best type of cooling for your new system depends on how powerful your PC will be. Vapour phase change cooling is effective but expensive. A case with the Vapochill cooling system installed costs £400 including VAT. Unless you're going to overclock your new PC extensively, we would recommend a powerful fan-based processor cooler instead. If air cooling isn't powerful enough, water cooling kits are far cheaper than vapour cooling systems and they are also easy to install. See *PC Builder* in our July 2005 issue for details.

► Acetek Waterchill's water cooling kit can help you keep your processor cool



INTERNET WIRELESS ACCESS

GETTING ONLINE IN A CARAVAN

Q My partner and I are both 69 years old, and we will soon be selling our house and its contents. After that, we hope to spend about 18 months travelling around the UK and Europe by caravan.

We use the internet a lot for email and hope to continue to do so on our travels. Will this be possible? We won't have a permanent telephone line and will often be far from internet cafés. If it is possible, what hardware and software will we need? We suspect that such connections can be made via satellite, but is it a practical alternative? And can a printer be connected to the necessary notebook?

Mr and Mrs D Brian

A You will definitely need a notebook for your travels. We recommend something along the lines of the Averatec 3300, which costs £764 including VAT from www.misco.co.uk. It is an Intel Centrino-based

notebook, which means that WiFi is built in. This is important because when you're away you'll be able to use wireless hotspots, common in cafés and pubs, to connect to the internet. This gives you a cheap and effective way of connecting and allows you to keep everything stored on one PC.

When you're away from hotspots and internet cafés, you will need another way of connecting. Satellite isn't portable enough for travellers; it is only intended as an alternative way of providing broadband for areas that don't have ADSL.

You can, however, use a data card that transmits data over the mobile phone network. Orange's 3G Mobile Office Card costs £130 including VAT from www.orange.co.uk. Vodafone has a similar product. It's worth talking to a representative from each company to discuss data charges as they can be expensive. We suggest that you use the data card only when there are no alternatives and, even then, use it only for checking email. Alternatively, you can buy a BlackBerry



► Use a notebook such as this one from Averatec to contact friends via the internet no matter where your travels take you

handheld device from www.vodafone.co.uk, which will give you mobile email.

Finally, if you take a notebook, you can connect any USB printer to it. While you can buy portable battery-powered printers, we recommend sticking with a standard printer and plugging it into the caravan's power. Sticking with a standard printer will also make it easier to buy replacement cartridges while you're travelling.


MOTHERBOARD **CLOCK SPEED**

ADDING AN ATHLON PROCESSOR

Q I have a Gigabyte GA-71XE4 motherboard with an old AMD Socket A processor. The motherboard clock generator goes from 90MHz to 115MHz in 5MHz steps. The handbook says that it supports Athlon and Duron processors from 500MHz to 1GHz and faster. I have some new software that will run only on a processor that operates at 600MHz or above. Can I reset the clock speed to 100MHz and plug in a 1GHz Athlon processor? And am I right in thinking the processor speed is a multiple of the motherboard clock speed?

John Barker

A There are two different types of AMD Athlon 1GHz processor. One has an effective frontside bus (FSB) speed of 200MHz (actually 100MHz dual pumped) and the other 266MHz. According to Gigabyte's website, only the model running at 100MHz will work on

your GA-71XE4 motherboard. As you assumed, the processor speed is a multiple of the motherboard clock speed and another factor, known as the clock multiplier. To run a 1GHz Athlon, you'll need to set your clock to 100MHz and your clock multiplier to 10.



▲ Be careful which version of the 1GHz Athlon you try to use with your Gigabyte motherboard


WIN

PC Hardware Annoyances

If you send our star letter, you'll receive a prize. This month's winner gets a copy of O'Reilly's *PC Hardware Annoyances*, which will help you fix any hardware problems your PC is experiencing. If you don't want to spend the rest of your life troubleshooting, keep this book next to your PC along with the latest copy of *Computer Shopper*. You will find that all your PC woes disappear.

PROJECTOR **BUYING ADVICE**

WHAT DO WE LOOK FOR IN A PROJECTOR?

Q My small company wants to buy a digital projector for PowerPoint presentations to use in staff training and customer sales. Can you please advise on which features I should consider?

Barry Wilson

A First you must consider how portable you want the projector to be. If you're planning to visit customers you'll need a portable projector. These are more expensive than less mobile ones, though, so if you have a dedicated room where you'll use the projector, you should buy a larger and cheaper model.

Projector brightness is a big factor. As you'll be using the projector for training, it's unlikely you'll want to turn all the lights off in the room so budget for 1,300 lumens. If you'll be using the projector in brightly lit rooms, 2,000 lumens is better. Resolution is important, too. For presentations, we suggest a resolution of 1,024x768. You'll also want VGA and DVI inputs. Finally, you have DLP and LCD projectors. Neither has a clear advantage for presentation use, but DLP projectors are smaller. A good all-rounder is BenQ's PB2240, reviewed in *What's New, Shopper* August 2005. It costs £970 including VAT from www.savastore.com. It's small enough to carry, has 2,000 lumens brightness and is very well-priced.

► The BenQ PB2240 projector is excellent value


PORTS **USB2**

PERFORMING A FLASHY UPGRADE

Q I use a USB1.1 flash drive, which works well, but I want to buy a new one with more capacity. This will be USB2, so can I upgrade my current computer to support the higher speeds?

Chris Edwards

A If your motherboard doesn't already have USB2 ports it's easy to upgrade. In fact, as long as you have a free PCI slot,

all you have to do is buy a USB2 controller. These are now very cheap and you can pick up a product such as D-Link's 2-Port USB2.0 PCI card for as little as £11 including VAT from www.misco.co.uk.

Remember that only the ports on the new card will work at the speeds afforded by USB2. To save fiddling at the back of your PC when you connect your flash drive, you can buy a USB extension cable (if your new drive doesn't come with one) or, to get more ports, a USB2 hub.

DVD WRITER **BUYING ADVICE**

WHICH DVD WRITER SHOULD I BUY?

Q I'm desperately trying to buy a DVD writer. I bought *Computer Shopper* and was pleased to find a Best Buy recommendation, the Sony DRU-720A. You suggested buying it from www.dabs.com, but Dabs doesn't seem to stock it. All I found was the Sony DRU-800, which isn't mentioned on the Sony website. Can you explain why this is?

The DRU-720A wasn't the only Best Buy, but it seemed to best suit my needs. I was put off the LG GSA-4163B as it doesn't include as much software. It also seems to have lots of functions I know I won't use, so it might be overcomplicated. Is this a reasonable concern? I hope you can help.

Ben Austin

A DVD technology is advancing with some speed at the moment. This is usually a good thing, as it means that DVD writing becomes faster every few months. The downside, though, is that it can be hard to keep

track of DVD writers as new models are released every few weeks.

Sony's DRU-720A has now been replaced by the DRU-800A. This newer model is very similar, but it can write to dual-layer DVD-R discs as well as double-layer DVD+Rs. We haven't tested it yet, so we can't comment on its performance, but in theory it should be just as fast as the DRU-720A. We found a few online stores still selling the DRU-720A if you would prefer that instead, but at £50 including VAT it's slightly more expensive than the newer model.

Alternatively, the LG GSA-4163B is now available for £40 including VAT. We wouldn't consider it to be any more complex than the Sony, but its software package certainly isn't as good. **ES**

► The Sony DRU-720A has been replaced by the DRU-800A

